INFORMATION TECHNOLOGY AND TELECOMMUNICATIONS

Governance of Technology

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
1. The ITC has not been effective in its oversight of technology.	▪ Restructure governance of technology to provide clear-cut accountability and a well-defined chain of command: ▪ Establish an Information Resource Management Commission (IRMC) to replace the existing Information Technology Commission *(The General Assembly enacted legislation establishing IRMC in the 1992 session.)* ▪ Designate the Deputy Controller for Information Resource Management to be the Chief Information Officer ▪ Establish an Information Resource Management Advisory Board to link agency programs, technology plans, and service delivery needs	▪ Coordinates the executive agency technology plans and budgets, statewide technology strategies and policies, and material expenditures.	3.3
2. The IRM function reports to an Assistant Secretary in most agencies.	▪ Establish supervision of the IRM function at either the Secretary or Deputy Secretary level of each agency.	▪ The agency may be better organized to coordinate information technology initiatives across its divisions and programs. ▪ More valuable uses of information technology may be found for more programs.	3.7

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The Governance Process

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
1. Major appropriation requests for information technology often are not well managed.	▪ The IRMC should establish minimum standards for all appropriation requests to the General Assembly for information technology funding.	▪ Improves the decision-making process on funding for information technology.	3.8
2. North Carolina is affected adversely by long-term technology projects losing funding midstream.	▪ The General Assembly should develop a process for multi-year funding of technology projects.	▪ Improves the potential to successfully complete long-term projects.	3.9
3. Agency spending on information technology often appears to be inadequately managed.	▪ The IRMC should establish procedures for purchasing and should approve significant technology expenditures.	▪ Reduces inappropriate or ineffective procurements.	3.10
4. Consolidated financial information about agency technology efforts and assets is not readily available.	▪ Appropriate technology funds at the department level and require the IRM manager to report quarterly on agency technology expenditures and activities.	▪ Facilitates the collection of agency-wide expenditures on technology.	3.11

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The Governance Process

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
5. There is no independent reporting on project status and results.	▪ The IRMC should institute a quality review program to monitor the progress of major/critical technology projects. ▪ The IRMC should temporarily freeze appropriated project funds if the project is at risk and agency management has not committed to taking corrective action to resolve the issue.	▪ Reduces the risk of projects failing to achieve intended results.	3.12
6. State management's discussions about SIPS's finances are often filled with miscommunication that inhibits effective decisions.	▪ Establish standard financial terminology and statistics regarding technology resources to facilitate effective management.	▪ Improves the quality and timeliness of management decisions based on financial aspects of information technology.	3.14
7. Many agencies go outside of SIPS for data processing.	▪ The IRMC should establish a policy regarding agencies using alternative processing sources to SIPS.	▪ Positions the State to get the greatest value from its expenditures for information processing.	3.15

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Technology Planning

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
1. The planning process for technology is ineffective, uncoordinated, and not integrated.	▪ Modify the planning process at the agency level to link technology plans to program objectives. ▪ Reconstruct the planning process at the statewide level. ▪ Planning documents should be made more specific and more detailed.	▪ Enables the State to achieve more economical and more effective integration of systems across agencies and potentially across branches.	3.16
2. Technical experts on agency IRM staffs tend to be underutilized.	▪ Organize technical experts centrally to share transferrable skills across agencies.	▪ Raises productivity of affected technical staff while enriching their jobs.	3.23
3. Personal computer (PC) usage among the agencies is at a modest overall level. However, PC cost, distribution, and utilization are not well controlled.	▪ Require agencies to submit PC utilization plans to the IRM Office as a precondition for authorizing the purchase of PCs.	▪ Makes utilization of the growing number of PCs in the agencies more cost effective.	3.26

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
4. Agencies often fail to use the competitive process to procure cost-effective solutions to their information technology needs.	▪ Eliminate directed sole-source procurements and establish a statewide standard for competitive procurement of technology products.	▪ Establishes competitive procurement as the standard means for acquiring technology products at favorable cost.	3.27
5. The agencies do not exercise effective quality assurance (QA) functions.	▪ Implement a statewide quality assurance program to ensure the prudent management of major investments in information technology.	▪ Ensures the prudent management of major investments in information technology.	3.30

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
1. Current conditions of information technology vary widely among the agencies and some are detrimental to the State.	▪ The agencies facing operational risks should immediately prepare plans and assess the value of greater investments to reduce and eventually eliminate these risks.	▪ Reduces the risk of interruptions in State operations caused by systems problems.	3.20
2. SIPS and the IRM divisions in most cases have not provided adequate training and tools to technical staff.	▪ All agencies should invest in an ongoing program of appropriate training and tools for technical staff.	▪ Ensures that all technical staff are enabled to be productive.	3.31
3. North Carolina does not have adequate disaster recovery capability for its data centers nor for its mission critical applications.	▪ North Carolina should immediately reduce its exposure to prolonged disruption of its operations from potential data center disasters.	▪ Reduces the risk of prolonged disruption of business operations caused by major problems at the data centers.	3.33

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
4. Data security measures in effect among the agencies are generally not adequate to provide appropriate protection for sensitive data.	▪ Raise the statewide level of data security policies and procedures to protect the integrity and confidentiality of sensitive data.	▪ Ensures data integrity and prevents unauthorized access to sensitive data.	3.35
5. Management of telecommunications is not well organized across the agencies.	▪ The organization structure of telecommunications management should be formalized across the agencies. ▪ The responsibilities for telecommunications management should be clearly assigned between State Telecommunications Services (STS) and the agencies.	▪ Facilitates responsible management of telecommunications at the agency level.	3.38

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Telecommunications

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
1. SIPS's published plans for the State's telecommunications operation and information technology initiatives are insufficient.	▪ STS should prepare an annual telecommunications plan in a rigorous, standardized format. ▪ STS should prepare a strategic long-range plan for State telecommunications. ▪ SIPS should enhance its information technology planning process.	▪ Effective planning will enable SIPS to enhance its overall value to the State.	3.43
2. North Carolina's telecommunications needs are poised for rapid growth.	▪ STS should proceed with its current planning for band width on demand.	▪ Potential savings of $10 million to $20 million versus alternative approaches.	3.45
3. Several video pilot projects will create additional network costs for the State.	▪ The State should begin to determine whether it will support these pilot projects after the grants expire.	▪ Allows the State to independently assess each pilot project before committing funds.	3.46
4. The State operates multiple telecommunications networks.	▪ The State should plan and implement some beneficial consolidation of these networks.	▪ Reduces the State's direct network costs possibly by as much as 20 percent on affected networks.	3.48
5. STS's telecommunications disaster recovery plan is not operational at this time.	▪ STS should enhance the draft telecommunications disaster recovery plan.	▪ Improves coordination with the SIPS data center disaster recovery plan.	3.50

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State Information Processing Service (SIPS)

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
1. SIPS has been operating with a non-responsive and sometimes authoritarian management orientation.	▪ SIPS should proceed to implement fully the customer service orientation that it adopted in its January 1992 reorganization.	▪ Provides effective disaster recovery for the statewide backbone network.	3.52
2. SIPS does not have an effective client relations function.	▪ SIPS should further broaden and strengthen the new client relations function.	▪ Improves customer service.	3.54
3 SIPS has avoided implementing service level agreements.	▪ SIPS should institute client-oriented performance measures and commit to them in service level agreements.	▪ Provides an objective basis to measure quality of service to clients.	3.55
4. SIPS's bills provide insufficient information for agencies to use in managing their costs and resources.	▪ SIPS should simplify the structure of its billing process and the format of its billing reports.	▪ Improves an agency's ability to manage its SIPS processing costs.	3.55

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Finances

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
1. SIPS's billing rates have been developed informally.	▪ SIPS should formalize its rate setting and review process for computing and telecommunications services.	▪ Improves customer acceptance of billing rates.	3.56
2. SIPS's reserve accumulation will likely impact agencies that obtain federal reimbursements.	▪ The State Controller should work with the affected agencies to anticipate and minimize the adverse impact of this directive and of Circular A-87 in general.	▪ Avoids potential disallowance of costs claimed for reimbursement.	3.58
3. SIPS's reserve requirements are increased by its practice of purchasing its mainframe computer.	▪ The Advisory Budget Commission should consider reversing its policy and allowing SIPS to acquire major equipment through a lease-purchase agreement.	▪ Could substantially reduce its billing premium percentage.	3.59

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
1. The performance analysis and capacity management function at SIPS is not performing all the necessary tasks and is significantly understaffed.	▪ SIPS should define a comprehensive and complete performance analysis and capacity management function and should dedicate adequate resources to it.	▪ Enables SIPS to obtain maximum utilization of its mainframe computer.	3.62

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
1. Problem reporting and Help Desk activities are fragmented.	▪ SIPS should strengthen and organize its problem reporting.	▪ Reduces lost productivity of users caused by system problems.	3.65
2. SIPS has no internal function responsible for ensuring high quality, user-oriented services.	▪ SIPS should establish a quality assurance function.	▪ Ensures the delivery of quality services to SIPS users.	3.66
3. Some production systems at SIPS are not under proper change control.	▪ SIPS should establish a fully functional change management system.	▪ Reduces the likelihood of simple errors not being detected and corrected before a change is implemented.	3.67
4. SIPS does not provide adequate back-up support among its systems programmers.	▪ SIPS should cross train its system programmers to provide more back-up for critical systems products.	▪ Raises the overall productivity of the technical support group.	3.69

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Technical Leadership

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
1. SIPS has always provided only IBM mainframe solutions while agencies have needed help with Data General and DEC VAX equipment.	▪ SIPS should provide technical leadership and support in all appropriate technologies.	▪ Provides technical leadership to the agencies.	3.70
2. SIPS's training services are well received, but are needed on more or newer products.	▪ SIPS should focus its training where the clients have growing needs.	▪ Provides training on topics where it is most needed.	3.70
3. SIPS takes no responsibility for the efficiency of agency applications run at its data centers.	▪ SIPS should set and enforce appropriate technical standards for new applications.	▪ Leverages the capacity of the mainframe computer.	3.71
4. SIPS has not allocated sufficient resources to provide the type and level of support specified for LANs.	▪ SIPS should reevaluate its LAN support function to determine the type and level of support it should provide.	▪ Provides agencies with effective support of LANs.	3.72

FINDINGS	RECOMMENDATIONS	RESULTS	REPORT PAGE
5. SIPS's programmers and analysts do not have adequate training to successfully develop systems using the new methodology and CASE tools standards.	▪ Initiate CASE training for staff and prepare related standards and procedures.	▪ Makes technical staff proficient in using current productivity tools.	3.73
6. The data center operated for the departments by the State Computer Center (SCC) has the potential to improve certain aspects of its utilization of resources, based on a comparison with other data centers.	▪ Develop and implement significant policy changes to encourage user departments to manage their application systems for greater utilization of SCC Resources.	▪ Allows for better levels of resource utilization.	3.76